AMENDMENTS TO THE SPECIFICATION

Please amend paragraph [0028] as follows:

-- [0028] FIG. 2 illustrates a schematic electrical diagram of a micro-bridge circuit 200, which can be implemented in accordance with an embodiment of the present invention. Circuit 200 of FIG. 2 is associated with system 100 of FIG. 1. Circuit 200 comprises a heater Wheatstone bridge (WB) circuit that includes at least resistors 202, 204, 206, and 210, which are respectively also labeled in FIG. 2 ~~FIG. 1~~ as resistors R_A, R_B, R_C and R_{C1}. Circuit 200 can be utilized to implement heater portion 104 of FIG. 1. An optional resistor 224 ~~225~~, labeled in FIG. 2 ~~FIG. 1~~ as R'_{C1} can be located between resistor 204 and resistor 202. Circuit 200 further includes an op-amp device 216 whose output is tied back between resistors 202 and 204 at a node 214, also labeled as V_Q. --

Please amend paragraph [0029] as follows:

-- [0029] In the illustrated approach of FIG. 2 ~~FIG. 1~~, resistors R_A, R_B, R_C and R_{C1} are temperature independent, but a thin-film resistance 212 (R_H, on the micro-bridge) and 208 (R_R, on the chip, i.e., system 100) are not. Resistor 210 and resistance 208 are shown parallel with each other in FIG. 2 and tied to a ground 222, along with resistance 212. The combined temperature dependencies of R_H, its heat dissipation via thermal conductivity and that of the reference resistor system, $[R_R + R_C + R_{C1}]$, are configured to cancel, so that V_Q becomes temperature independent, which generally requires that ΔT_{htr} (T) is approximately equivalent to a constant value. --

Please amend paragraph 35 as follows:

-- [0035] FIG. 3a illustrates a graph 301 of temperature dependence of a sensor prior to compensation, in accordance with an embodiment of the present invention. FIG. 3b illustrates a graph 302 ~~202~~ of temperature dependence of a sensor after compensation, in accordance with an embodiment of the present invention. The data plotted in FIGS. 3a and 3b generally illustrates values, which can be obtained for three gases near atmospheric pressure after adjustment of R_C to achieve constant heater temperature rise above ambient, ΔT_{htr} (FIG. 3a), and after simulating the effect of additions to R_C and of R_{C1} to make V_Q independent of temperature for N_2 (FIG. 3b). --

Please amend paragraph [0041] as follows:

-- [0041] FIG. 5 illustrates a graph 500 ~~400~~ of purge response time of a thermal conductivity sensor, in accordance with an embodiment of the present invention. Graph 500 generally depicts how fast a sensor implemented in accordance with an embodiment of the present invention can respond to a change in gas property (N_2 to Argon), in spite of being held in a recessed cavity. --

Please amend paragraph [0043] as follows:

-- [0043] A protective screen 619 also serves to provide a protective barrier against fluid 608 ~~621~~. Note that chip 617 of FIG. 6 is analogous to the IC chip or system 100 of FIG. 1 and circuit 200 of FIG. 2. Sensor package 600 additionally includes a package portion 622, which seals fluid 608 via one or more O-rings 610 around the chip 617, while ring 626 (e.g., approximately 1.5" OD) keeps fluid 608

from leaking out of and past package portion 622. Note that a cover portion 618 can be implemented as a part that is separate from package portion 622 and can be held together via the screws 604 and 608, which can be located around the ceramic chip 617 and the alumina substrate 620. Note that the chip 617 can be, for example, approximately 1.7 x 1.7 mm in size, on a 1 x 1 " ceramic substrate. --

Please amend paragraph [0045] as follows:

-- [0045] Resistor 721 can be further connected to a resistor 718 and parallel capacitors 714 and 716 ~~715~~. Resistor 718 is connected in series with a POT resistor 720, which in turn is connected to a resistor 723 and a resistor 725. The resistor 723 is also connected to the output of amplifier 724 ~~722~~. Resistor 725 ~~724~~ is also tied to an output of amplifier 724, which is further tied to a temperature detector or sensor 726. A resistor 728 is connected in series with a resistor 730, which in turn can be connected to parallel capacitors 714 and 716. Additionally, resistor 730 and capacitors 714 and 716 can be connected to a voltage reference 734. The voltage reference 734 can be, for example, approximately +5V. --